INSPECTION TECHNICAL PROCEDURE

I-111

ALARA PROGRAM ASSESSMENT

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INSPECTION TECHNICAL PROCEDURE I-111, REV. 3
ALARA PROGRAM ASSESSMENT

1.0 PURPOSE

This procedure provides guidance for assessing the Contractor's As Low As is Reasonably Achievable (ALARA) program. This guidance is based on the requirements in 10 CFR 835, the Safety Requirements Document (SRD), the Radiation Protection Program (RPP), the Environmental Radiation Protection Program (ERPP), the Radiological Controls Program (RCP), the Quality Assurance Manual (QAM), and the Integrated Safety Management Plan (ISMP).

This procedure assesses the adequacy and effectiveness of the following:

- ALARA program documentation
- ALARA program implementing procedures
- ALARA design
- Operational ALARA
- Consideration of non-radiological hazards
- System of records.

NOTE: This procedure references RPP sections as the basis of many of the requirements. At the time of writing, the RPP was approved for design and construction. When the revised RPP is approved for operations, this procedure will be reviewed to ensure the inspection attributes and references are appropriate. The same concept applies to the ERPP, which has not yet been received from the Contractor.

2.0 OBJECTIVES

This procedure verifies the Contractor has developed, implemented, and maintained an effective radiation exposure ALARA process during: (1) design, (2) construction, (3) operation; and (4) deactivation of the River Protection Project Waste Treatment Plant (RPP-WTP).

This procedure is a component of the RCP inspection program. This and other inspection procedures will be used, as needed, on an on-going basis to provide assurance that ALARA activities are being conducted as required by the RCP, authorization basis commitments, and Contractor procedures. This procedure will be used throughout the entire lifecycle of the WTP. However, the entire inspection procedure may not be completed during any one inspection and/or every time the inspection procedure is used.

3.0 INSPECTION REQUIREMENTS

3.1 Adequacy and Effectiveness of ALARA Program Documentation

3.1.1 The inspector should verify the Contractor has established formal plans and measures for applying the ALARA process consistent with status of the project. (RPP, Requirements 13 and 106 through 113)

3.1.2 The inspector should verify the Contractor has established formal plans and measures for applying the ALARA process related to effluents and public dose. (BNI Contract, Section C, Standard 7; and SRD, Safety Criterion (SC) 5.3-2, 5.3-3, and 5.3-7)

3.2 Adequacy and Effectiveness of ALARA Program Implementing Procedures

The inspector should verify the Contractor has established, maintained, and implemented ALARA program procedures. (RPP, Requirement 13; ERPP; and QAM, Policy Q-05.1)

3.3 Adequacy and Effectiveness of ALARA Design

3.3.1 The inspector should verify the Contractor has established and implemented its process for ALARA design. (SRD, SC 5.3-2 and 8.0-2; ISMP, Section 3.9.2; and RPP, Requirements 106 through 113)

3.3.2 The inspector should verify the Contractor has established and implemented its process for radiation protection design of the facility. (ISMP, Section 3.9.1)

3.3.3 The inspector should verify the Contractor's ALARA program has successfully achieved the occupational and public dose objectives. (SRD, SC 2.0-1; and ERPP)

3.4 Adequacy and Effectiveness of Operational ALARA

3.4.1 Limited Construction/Construction

The inspector should verify the Contractor has implemented and maintained an effective operational ALARA program during limited construction and construction. (RPP, Requirements 112 and 113; and SRD, SC 5.0-1 and Section 5.3)

3.4.2 Hot Commissioning/Operations

The inspector should verify the Contractor has implemented and maintained an effective operational ALARA program during operations. (SRD, SC 5.0-1 and Section 5.3; and RPP, Requirement 112 and 113)

3.4.3 Deactivation

The inspector should verify the Contractor has implemented and maintained an effective operational ALARA program during deactivation. (SRD, SC 8.0-2; and RPP, Requirement 112 and 113)

3.5 Adequacy and Effectiveness of Consideration of Non-Radiological Hazards

The inspector should verify the Contractor has incorporated non-radiological hazards into the ALARA process during design, construction, operation, and deactivation of the facility. (PL-W375-NS00005, *RPP-WTP ALARA Program*, Section 3.3; and SRD, SC 5.3-2, ISMP Section 3.9.2 and 6.1.4)

3.6 Adequacy and Effectiveness of the System of Records

The inspector should verify the Contractor has a system of records to document the actions taken to maintain radiation exposure ALARA. (RPP, Requirement 91)

4.0 INSPECTION GUIDANCE

Inspection guidance is provided to assist the inspector in addressing the inspection requirements in Section 3.0 of this procedure.

Exposure to ionizing radiation at the levels permitted in 10 CFR 835, Subpart C, "Standards For Internal and External Exposure," increases the probability of adverse stochastic effects according to the linear non-threshold model. 10 CFR 835.101(c) requires that the RPP include formal plans and measures to ensure occupational radiation exposure are maintained ALARA. This involves making reasonable efforts to maintain exposure, as far below the regulatory limits as is practical, taking into account the state of technology, cost, practicality, and public policy considerations. The focus of the ALARA requirement is to ensure a process is in place to reduce occupational exposures to well below the regulatory limits. However, the process must also ensure the design objective stated in 10 CFR 835.1002(b) of less than 1 rem per year to workers from external radiation is also satisfied. In addition, the dose contribution from intake of radioactive materials must also be maintained ALARA by designing to prevent releases of radioactive material to the workplace atmosphere and using confinement and ventilation to limit exposure if releases occur. (10 CFR 835.1002(c))

Also, Section 2.4 of the ISMP, "Environmental Radiation Protection Program," states the Contractor is required to submit an ERPP to the OSR that will address an ALARA program. The purpose of this part of the ALARA program is to minimize the radiation dose to members of the public. One objective of this inspection program is to determine if the Contractor’s ALARA process will ensure that exposure to the public will be maintained less than dose standards presented in SRD Section 2.0-1.

Since efforts to implement ALARA may increase the risk from non-radiological hazards, an integrated approach that optimizes protection from all hazards must be a part of the overall management strategy to achieve an optimum level of safety.

For each of the inspection elements, the inspector must review the core requirements applicable to the stage of the project being inspected. For example, the RPP has been developed to incorporate requirements from 10 CFR 835, Subpart K-Design and Control, and approved by the OSR for the design and construction phases. The RPP commits to implementing several Articles from the *Waste Treatment Plant Radiological Control Manual,* MN-24590-01-00001, Rev. 0 (WTPRCM), and the RPP-WTP ALARA Program. The inspector must also use the SRD Safety Criterion and associated Implementing Codes and Standards, as well as the ISMP, for the specific technical guidance the Contractor is committed to use. This approach is essential for the ERPP, particularly if the ERPP has not yet been approved by the OSR.

The focus of this inspection effort is on the ALARA process, not individual dose determinations. If the process is not being fully implemented, identify the most safety significant/exposure intensive observations to communicate your conclusions.

At the completion of the inspection effort, the OSR should be able to describe the adequacy of the Contractor's ALARA process and its effectiveness in achieving ALARA objectives in the context of regulatory requirements and authorization basis commitments.

4.1 Adequacy and Effectiveness of the ALARA Program Documentation

4.1.1 The inspector should review the RPP-WTP ALARA Program to verify it addresses the seven topical areas presented in the RPP, Requirement 13. (Policy and Management Commitment; ALARA Training; Plans, and Procedures; Internal Assessments/Audits; ALARA Design Review; Radiological Work/Experiment Administration and Planning; and Records)

Note: SRD, SC 8.0-2 and Appendix F reference DOE 441.1-2, *Occupational ALARA Program Guide,* as an "Implementing Code and Standard" for the design related to deactivation and decommissioning. Therefore, the ALARA program should also address all of this guidance.

If the RPP-WTP ALARA Program has been changed since last reviewed by OSR, determine if the change reduced the effectiveness of the RPP. If the change reduced the effectiveness of the RPP, verify that the RPP change was submitted to and approved by the OSR. (RPP, Requirements 16, 17, and 18)

4.1.2 The inspector should confirm the adequacy of the effluent/public dose ALARA program by verifying the OSR has approved the ERPP. If OSR has not approved the ERPP, the inspector should verify how Contractor procedures implement the SRD Implementing Codes and Standards for effluents and public dose. (SRD, SC 5.3-2, 5.3-3, and 5.3-7)

4.2 Adequacy and Effectiveness of ALARA Program Implementing Procedures

The inspector should perform the following to verify the Contractor has established, maintained, and implemented ALARA Program procedures:

4.2.1 Review the ALARA program implementing procedures (some are referenced in the RPP-WTP ALARA Program) to determine if they provide sufficient direction to implement the seven ALARA topical areas and commitments to the TFRCM. (RPP Requirements 13, 91, and 106 through 113)

If the ALARA Program or implementing procedures have been changed since the last review, the inspector should verify they have not reduced the effectiveness of the ALARA program and they have been maintained in accordance with the QAM. (RPP, Requirements 18 and 22)

4.2.2 Verify, by review of records and discussions with individuals involved in implementing the ALARA Program and procedures (i.e., design engineers, radiological engineers, ALARA Sub-Committee members), that they have the education, training, and skills necessary to successfully implement their assigned responsibilities as defined in the BNI Training Program. (RPP, Requirement 21)

4.2.3 When possible, observe implementation of the ALARA procedures to assess the effectiveness. Look for indications the procedures are understood, followed, and produce the desired results. If procedure implementation cannot be observed during the course of the inspection, select records for at least three implementations of ALARA activities to assess the effectiveness of the procedures. This step may be conducted in conjunction with steps 4.3 or 4.4 that follow. (RPP, Requirement 22)

4.2.4 Review the results of Contractor audits and evaluations of its ALARA program performed since the last OSR inspection to determine if deficiencies involving the program or procedures have been identified and corrected. (RPP, Requirement 20; QAM, Policy Q-16.1)

4.2.5 Repeat steps 4.2.1 through 4.2.4 if the ERPP references a separate ALARA program for the effluent/public dose ALARA procedures. (BNI Contract, Section C, and Standard 7)

4.3 Adequacy and Effectiveness of ALARA Design

4.3.1 The inspector should evaluate the ALARA design process by reviewing a sampling of specific design products to determine if the Contractor's process is being fully implemented. The following components from the RPP-WTP ALARA Program comprise the BNI ALARA design process: (RPP, Requirement 106)

- Completion of a baseline design proposal
- Identification and evaluation of alternatives impacting baseline case dose
- ALARA assessments

- Formal ALARA reviews
- Final decision process
- Incorporation of changes into design
- ALARA documentation.

The activities listed below should be performed to evaluate the adequacy of the ALARA design process.

4.3.1.1 The inspector should select about five completed specific design products that will impact dose, effluents, or decommissioning, and verify the ALARA design considered the following: (RPP, Requirements 106 through 112; and SRD, SC 8.0-2)

- Primary methods to reduce dose were physical design features (e.g., confinement, ventilation, remote handling, and shielding)

- Administrative controls were only employed as supplemental methods to control exposure

- Administrative controls were used to maintain dose ALARA for specific activities where use of physical design features have been demonstrated to be impractical

- Optimization methods were used to assure that the dose was maintained ALARA in developing and justifying the facility design and physical controls

- Design objective for controlling personnel exposure from external sources of radiation in areas of continuous occupational occupancy (2000 hr/yr) was as far below an average exposure rate of 5 mrem/hr as was reasonably achievable

- Design objective for exposure rates, where the occupancy differs from 2000 hr/yr, were ALARA and did not exceed 20% of the applicable standards in 10 CFR 835.202

- Design objective for control of airborne radioactivity, under normal conditions, was to avoid releases to the workplace atmosphere, and in any situation, to control the inhalation of such material to levels that were ALARA by use of confinement and ventilation control measures

- Facility design and selection of materials included features that facilitate operations, maintenance, decontamination, and decommissioning

- Design limited the dose to members of the public to less than 2 mrem in any one hour and less than 100 mrem in a year from all sources and was below the radiological and process dose standards expressed in SRD, SC 2.0-1, and was ALARA.

The inspector should discuss the preliminary observations with the design engineer and responsible radiological engineer to ensure the Contractor's position is understood. If it

appears the process was not followed, the inspector should determine why. If the process was followed but it appears the final design is not adequate, the inspector should collect all pertinent information and discuss the matter within the OSR to achieve management consensus before any conclusion regarding the adequacy of a specific ALARA design is presented to Contractor representatives.

Note: Any inspector calculations, performed to support OSR conclusions, must be conducted and documented in accordance with OSR management direction. Normally these calculations would be included as an appendix to the inspection report.

4.3.1.2 The inspector should review a sample of at least three of the topical areas listed below to assess the broad effectiveness of the ALARA design. The topical areas selected should be coordinated with the assessments and reviews conducted pursuant to Section 4.3.1.1 above. In addition to reviewing documents and discussions with Contractor representatives, the inspector should observe the following:

- General configuration of the facility. Review traffic patterns, location of radiation areas, location and size of the control rooms, adequacy of personnel decontamination facilities, location of the fixed monitoring equipment, and adequacy of space for anticipated operations, maintenance, and decommissioning

- Confinement and ventilation systems. Determine whether they provide the required level of protection from airborne contamination. Particularly, look at patterns of airflow and the location of the air inlets and exhaust ports, and other penetrations. The purpose is to minimize the release of radioactive material to the workplace under normal operating conditions so the inhalation of such material by the workers is ALARA

- Control devices for reducing occupational exposures. This includes shielding, hoods, gloveboxes, containments, interlocks, barricades, shielded cells, decontamination features, and remote operations

- Personnel entry controls. Determine, for each radiological area, if controls are commensurate with existing or potential radiological hazards within the area

- Control of access to high and very high-radiation areas. Determine if these controls meet the special features specified in RPP, Requirements 60 through 63

- Radiation monitoring and nuclear criticality safety instrumentation. Assess whether such monitoring is appropriate for the expected types and intensities of radiation, and has sufficient redundancy and capability for operation for normal and emergency operating conditions

  Note: This step should be conducted using ITP I-143, "Radiation Monitoring and Control."

- Facilities for handling, packaging, storage, and shipping of radioactive waste

- Features used to minimize the generation of radioactive waste

- Design features to control the release of liquid and gaseous effluents into the environment.

4.3.1.3 The inspector should review any Contractor audits of the ALARA program performed since the last inspection. The inspector should follow-up selected identified deficiencies to determine if corrective actions were taken in a timely manner and if it is likely the actions will be effective in correcting the reported deficiencies. (RPP, Requirement 20)

4.3.1.4 The inspector should verify the Contractor has implemented its oversight of the ALARA program as delineated in the RPP-WTP ALARA Program document. The inspector should observe a meeting of the ALARA Subcommittee (ASC) to confirm that its activities are conducted consistent with the Project Safety Committee implementing document. If it is not possible to observe a meeting during the course of the inspection, the inspector should review documentation of past meetings to confirm the implementing procedure is being followed.

4.3.2 The inspector should identify three structures, systems, or components from the Hazard Analysis Report, based on review of the facility design documentation and discussion with the RPP-WTP representatives, which contribute substantial exposure to workers or the public. The inspector should verify by review of design records that the criteria expressed in ISMP Section 3.9.1 related to material confinement, shielding, access control, and monitoring have been implemented.

4.3.3 The inspector should consider the ALARA design effectiveness if it achieves the dose criteria presented in SRD Table 2.0-1 for normal and anticipated events. In each of the areas described below, the inspector's review should focus on evaluating the veracity of input, acceptance of calculation models and computer codes used, implementation of those codes and models, the rigor of independent verifications, and completeness of records maintained.

4.3.3.1 Contractor documentation of ALARA design verifications conducted pursuant to the RPP-WTP ALARA Program and implementing procedures should be reviewed. This documentation might include the following: "Classification of Areas Report," "Shielding Assessment Report," and "Dose Assessment Report" for each project facility. Reviewing several of these design verifications will be the most efficient way to evaluate the Contractor’s probable success in achieving the dose objectives.

4.3.3.2 Overall design effectiveness relative to occupational dose standards should be reviewed. The inspector should evaluate compliance with the Radiological and Process Standards presented in SRD Safety Criterion 2.0-1 by review of the Contractor’s dose assessments. Also confirm that the ALARA design objectives expressed in RPP, Requirements 109 and 112, and the ERPP were demonstrated. The inspector should verify that any specific commitments regarding use of dose models or codes incorporated into the authorization basis were implemented. (SRD, Sections 5.3, 5.4, and Appendix A and D)

4.3.3.3 Control room and other location designs should be evaluated. Following an accident, the designs will not result in an excess of 5 rem total effective dose equivalent (TEDE) and 30 rem beta skin dose to the operator. (SRD, SC 4.3-7; and ISMP, Section 1.3.8)

4.3.3.4 Preliminary observations should be discussed with the Contractor. The design engineer and responsible radiological engineer should understand the Contractor's position. If it appears the process was not followed, the inspector should determine why. If the process was followed but it appears the final design is not adequate, the inspector should collect all pertinent information and discuss the matter within the OSR to achieve management consensus before any conclusion regarding the adequacy of a specific ALARA design is presented to the Contractor.

4.3.3.5 Use of design effectiveness with the public dose objectives expressed in SRD Table 2.0-1 for normal and anticipated events should be reviewed. (Refer to Section 4.3.3.1)

Note: Washington State requirements state, "Radionuclide emissions shall be determined and dose equivalents to members of the public shall be calculated using department of social and health services approved sampling procedures, department of social and health services approved modes, or other procedures, including those based on environmental measurements that department of social services has determined to be suitable." (WAC 173-480-070) (Also refer to WAC 246-247)

4.4 Adequacy and Effectiveness of Operational ALARA

For each project phases shown below, the inspector should first review the OSR approved RPP/ERPP and determine whether the Contractor is conducting work within the scope of the RPP/ERPP.

For each section where it is suggested that training records should be reviewed, the inspector should first make a determination if Inspection Technical Procedure I-150, "RCP Personnel Training and Qualification," has recently been performed and the extent to which it covered ALARA related training. The sample size should be adjusted to take credit for any recent inspection in this area.

4.4.1 Limited Construction/Construction Phase

The inspector should perform the following activities, as applicable, prior to or during limited construction and construction to verify the RCP addresses residual radioactivity at the site and exposure that might be received by workers:

4.4.1.1 Review the Contractor's RCP to determine how potential dose from residual radioactivity, industrial sources of radiation, co-location of Contractor workers to other sources of exposure, and other occupational exposure to Contractors and subcontractors is being maintained ALARA. (RPP, Requirement 112 and 113)

4.4.1.2 Select 10 workers from different work disciplines and verify they have received appropriate ALARA training. Recognizing that exposure to workers during construction should be

minimal, it is necessary that all individuals entering the site be instructed to obey basic radiological posting and control instructions and they be trained in accordance with RPP Requirements 112 and 113 to minimize their dose. This training should be received prior to the start of work.

4.4.1.3 Verify the Contractor individuals performing radiation monitoring during the construction phase have received ALARA specific training pursuant to the RPP, Requirement 112.

4.4.1.4 Verify that the Contractor has implemented ALARA procedures, during the construction phase, to ensure that workers do not receive unnecessary exposure by observing how the Contractor controls NRC or State licensed activities and DOE subcontractor exposure generating activities authorized by DOE approved RPPs.

4.4.1.5 Verify by observation, discussion, and/or records review, how the Contractor has limited exposure from residual radioactive material discovered on the facility site or resulting from DOE activities near the facility site.

4.4.1.6 Identify, from the current Safety Analysis Report, several key structures, systems, or components having a significant impact on dose. Review the design packages, construction plans, specific work plans, materials of construction, and walk down the structures, systems, or components to confirm implementation of the ALARA process.

4.4.1.7 Review the results of audits performed to assess the effectiveness of the Contractor's ALARA program during construction. (RPP, Requirement 20)

4.4.2 Operations Phase

The inspector should review the following, as applicable, for Contractor performance during hot commissioning and operation to verify the RCP addresses the dose received by workers and members of the public.

4.4.2.1 Procedures for the specific RPP and ERPP requirements addressing ALARA during operations have been issued. (RPP, Requirements 112 and 113; and ERPP)

4.4.2.2RCP procedures should be reviewed to confirm that specific ALARA requirements regarding public dose objectives have been incorporated. (SRD, SC 2.0-1)

4.4.2.3Radiological work planning and exposure control record keeping procedures have been specified in the RCP. (RPP, Requirement 91)

4.4.2.4 Contractor procedures have been generated, in the hot commissioning phase, to ensure that ALARA design criteria have been effectively implemented. These procedures should address leak rate testing, instrumentation calibration, filter efficiency testing, process monitor response, and radiation zone exposure rate verification. The inspection should track the ALARA design criteria into the test procedures, observation of the test procedures, analysis of the test results, and observation of the Contractor's acceptance process to evaluate the effectiveness of its implementing procedures.

4.4.2.5 Effluent records, demonstrating implementation of the ERPP, are prepared and maintained.

4.4.2.6 Contractor audits of the ALARA program performed since the last inspection, if any. Follow-up selected identified deficiencies to determine if corrective actions were taken in a timely manner and if it is likely the actions will be effective in correcting the reported deficiencies. (RPP, Requirement 20)

4.4.2.7Records that workers are receiving planned special exposures, received instructions on measures to be taken to reduce their dose. (RPP, Requirement 29)

4.4.2.8Dosimetry records are documented if any workers have exceeded the 1 rem/year design objective. If dose was received in excess of the objective, confirm that the ALARA program was fully implemented and that the cause and corrective actions to achieve the design objective in the future have been taken.

4.4.2.9Records are documented if intake of radioactive materials by workers resulted from failure to effectively contain or ventilate airborne releases. If so, determine if the ALARA program had been fully implemented and that appropriate corrective action had been taken. (RPP, Requirement 110)

4.4.2.10Discussions are documented with the radiological protection staff, that monitoring is conducted to verify the effectiveness of engineering and process controls to contain radioactive materials and reduce radiation exposure and effluent releases. Based on these monitoring results, verify by discussion with the radiological protection staff and review of records what actions are being taken to identify and control potential sources of exposure. (RPP, Requirement 43; and SRD Section 5.3-2)

4.4.2.11Review effectiveness of the ALARA process, as implemented in actual work activities, by physical observation of a maximum of 10 work activities, including routine operator rounds, specific operator activities, maintenance, cleanup, and decontamination. (RPP, Requirements 112 and 113)

4.4.2.12Effectiveness of the operations and work practices combined with the design relative to the ALARA process by physically observing at least three topical areas (refer to Section 4.3.1.2 of this procedure).

4.4.2.13Training records for at least 10 workers involved in the above, to confirm that they had received ALARA training for their specific assignments and that training was provided before the start of work. (RPP, Requirement 103)

4.4.3 Deactivation Phase

4.4.3.1 The inspector should evaluate the effectiveness of the ALARA process during the deactivation phase using the same methodology presented above in 4.4.2.6 through 4.4.2.12.

4.5 Adequacy and Effectiveness of Consideration of Non-Radiological Hazards

4.5.1 During all phases, the inspector should review selected ALARA work planning documents and directly observe design, radiological work planning, and radiological work activities to determine if the ALARA process created significantly larger risks from other non-radiological hazards. Items to consider include the following: (SRD, SC 5.1-1 and 5.3-2)

- The work planning process should integrate the consideration of other industrial, physical, and chemical hazards that an individual may encounter
- Efforts to maintain worker doses ALARA should ensure that the risk of personnel injury from other hazards is not disproportionally increased
- Use of excessive protective clothing to control personnel contamination events may lead to heat stress situations
- Respiratory protective devices used to reduce intakes of radionuclides may slow work resulting in increased dose, and impair visual acuity and communications capabilities between workers
- Protective clothing to protect workers from chemical hazards may slow work down leading to increase worker dose.

4.6 Adequacy and Effectiveness of the System of Records

4.6.1 Inspection Technical Procedure I-151, "RCP Documents, Records, and Reports Assessment," and QAM inspections will routinely address the adequacy of the Contractor's radiological program records management system. During the conduct of this inspection procedure, numerous records are reviewed to determine compliance with the RCP. These records should have contained the information in accordance with RPP, Requirement 91. No additional records need be reviewed to establish the effectiveness of the ALARA records.

5.0 REFERENCES

10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*, as amended.

DOE G 10 CFR 835/B2, *Occupational ALARA Program*, U.S. Department of Energy, Rev. 1, 1994.

DOE G 441.1-2, *Occupational ALARA Program Guide*, U.S. Department of Energy, 1999.

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Integrated Safety Management Plan, BNFL-5193-ISP-01, Rev. 6, Bechtel National, Inc., 2001.

Quality Assurance Manual, Preliminary, QAM-24590-01-00001, Rev. B, Bechtel National, Inc., 2001.

Radiation Protection Program for Design and Construction, BNFL-TWP-SER-003, Rev. 8, Bechtel National, Inc., 2001.

RPP-WTP ALARA Program, PL-W375-NS00005, Rev. 0, Bechtel National, Inc., 2001.

RL/REG-98-26, *Inspection Technical Procedures*, U.S. Department of Energy, Office of River Protection, 2001.

I-143, "Radiation Monitoring and Control Assessment"
I-150, "RCP Personnel Training and Qualification"
I-151, "RCP Documents, Records, and Reports Assessment"

Safety Requirements Document, BNFL-5193-SRD-01, Volume II, Rev. 4, Bechtel National, Inc., 2001.

TWRS-P Project Hazard Analysis Report, BNFL-5193-HAR-01, BNFL Inc., as amended.

USNRC Regulatory Guide 8.8, *Information Relevant to Ensuring That Occupational Radiation Exposures At Nuclear Power Stations Will Be As Low As Is Reasonably Achievable,* Rev. 3, Nuclear Regulatory Commission, 1978.

WAC, Chapter 173-480 WAC, *Ambient Air Quality Standards and Emission Limits for Radionuclide*, Washington State Administrative Code, as amended.

WAC, Chapter 246-247, *Radiation Protection-Air Emission, Appendix B-BARCT Compliance Demonstration*, Washington State Administrative Code.

6.0 LIST OF TERMS

ALARA	as low as is reasonably achievable
ASC	ALARA Subcommittee
BNI	Bechtel National Inc.
BNFL	BNFL Inc.
DOE	U.S. Department of Energy
ERPP	Environmental Radiation Protection Plan
HAR	Hazards Analysis Report
ISMP	Integrated Safety Management Plan
NRC	U.S. Nuclear Regulatory Commission
QAM	Quality Assurance Manual
RCP	Radiological Controls Program
RPP	Radiation Protection Program
SC	Safety Criterion
SRD	Safety Requirements Document
TEDE	total effective dose equivalent

RPP-WTP River Protection Program-Waste Treatment Plant

Attachments: None